

“Was it intentional?” The New Mantra For Incident Response

- Sponsored By:
 - NC Radiation Protection Section
Radioactive Materials Branch
- Presented By:
 - Grant Mills, HP



“Old World” Considerations

- (Limited to:)
 - *Accidental* and/or
 - *Non-intentional* misuse (or diversion of radioactive material).
 - (Think the “thinkable”.)

“New World” Considerations:

- (Add:)
 - *Intentional* misuse and / diversion of radioactive material.
 - The first question will always be, “*Was this intentional?*”
 - (Think the “unthinkable”.)

“Intentional” Challenges

- When do you know if it was *intentional*?
- How do you know if it was *intentional*?
- Should we consider everything *intentional* until proven otherwise, or consider everything *accidental* until proven otherwise?
- What are the additional “resource” requirements (\$\$\$\$\$\$\$\$\$\$).

Intentional = *Crime Scene*

- Judicial Considerations:
 - interviews / searches (?)
 - evidence collection (?)
- Added Hazard(s):
 - to general public
 - to responders
 - possible multi-threats (hazards).

NCRPS Supports First Responders

- Law Enforcement
 - NCSHP
 - Local L.E.
 - SBI
 - FBI
 - ATF
- Fire Fighters
 - Haz-Mat
 - Local / Vol.
- State Agencies
 - Public Health
 - Environmental Health
 - Wildlife / Agriculture
- Military
 - MPs
 - ???

How Many?

- From September 2002 to August 2003 over 3,000 have attended NCRPS's sponsored *“Basic Recognition and Awareness Training for Commonly Transported Radioactive Material”*.
- The Program has been imported by four other Agreement States.

FEMA RECOGNITION

U.S. Department of
Homeland Security



FEMA

PREPAREDNESS

Smart Practices

Spotlight

UKFI

What is a “First Responder”?



First Responders?



An HP's (Radiological) First Responder:



Public's (Radiological) First Responder:



First Responder?

- Anybody (or group) that has (or is) applying for a *Homeland Security Grant*.

How Do We Interface With “First Responders”?

- *Prior* interaction is key.
- Offer knowledge,
- Offer resources,
- Offer examples,
- Offer a name and a face.

Forms Of Interaction:

- (Basic) field training,
- Proactive contact,
- and, Printed material.

(Basic) Field Training

- “Basic Recognition & Awareness. (Non-technical)
- Offered at *Their House*.
- Face to Face interaction.
- Hands on (Dummy Devices)

Prior Knowledge



Industrial Radiography



Portable Nuclear Gauge

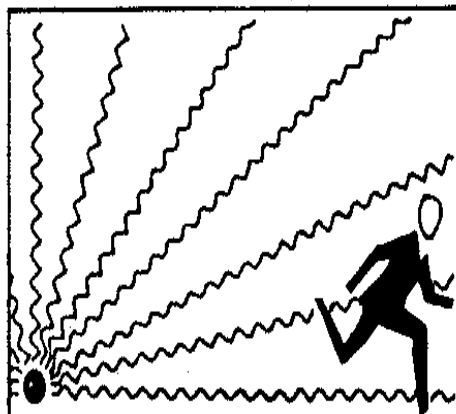


Packaging



The Basics

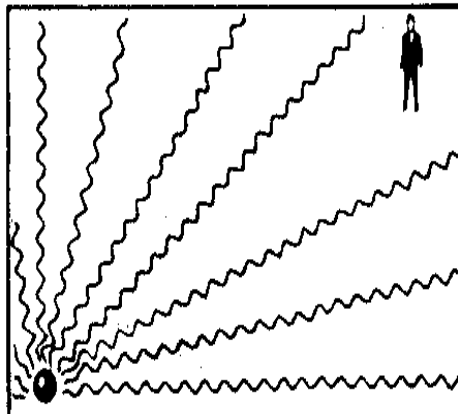
TIME



Less time spent
near source - less
radiation received



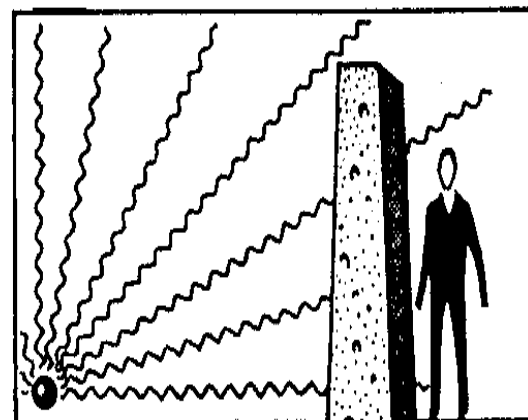
DISTANCE



Greater distance
from source - less
radiation received



SHIELDING



Behind shielding
from source - less
radiation received

Resources Available

**N.C. Radiation Protection - Raleigh (8-5):
(919) 571-4141**

**N.C. Emerg. Mgt. Ops. Cnt. (After-hours):
(919) 733-3943
(800) 858-0368**

Reduce The Chance For “Over Response”

- Prior Knowledge
- Relative Risk
- Society Benefits
- Regulatory Environment
- Resources Available

Radiopharmacy Transport



Unit Dose or Pipe Bomb?



What They Want



Lessons Learned:

- Keep it short (less than one hour).
- (Alpha + Beta + Gamma) = SLEEP!
- Hands on (the more “toys” the better).
- Don’t be an “egghead” - be a resource.
- Acknowledge limitations (there is “gray” area).
- Try to follow up.

Opportunities

- Consistency & Interoperability Of Instrumentation.
- Consistency of Training, Terminology & Expectations.
- Monitor For Duplication Of Services.
- Develop Data Bases:
 - “Mutual-Aid” Understandings.

Opportunities Missed

- Data is being collected (hand written & filed away).
- Unfortunately, due to lack of resources (money, people & time), none of the listed opportunities are being realized.
- “\$”

Proactive (contact) Interaction

- Develop communication flow.
- Provide unsolicited information.
- Pictures, history, uses, regulatory oversight.
- “*Fact Sheets*”

I-125 SEEDS

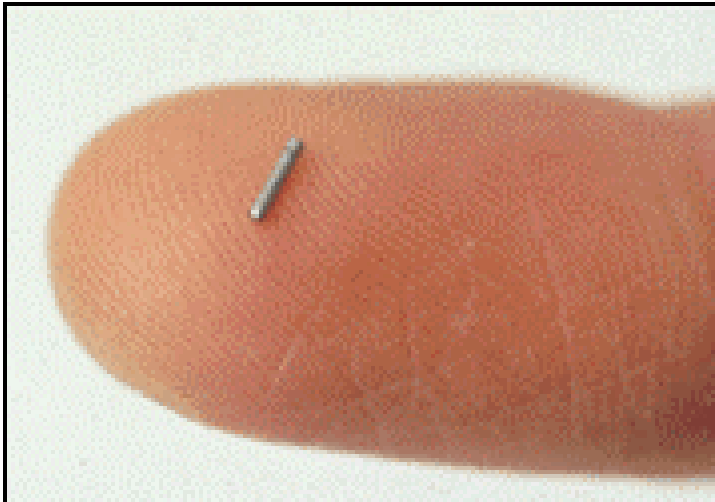


Figure 1



Lessons Learned:

- Information is an (addictive) drug.
- This is a time critical commitment.
- It raises expectations.
- It saps resources. (time, people & money)
- It is greatly appreciated.
- The favor is often returned.
- It is a long term commitment.

Printed Information

- Identify Needed Information
- Identify Groups That Need The Information. (Do they want it?)
- Develop best media type to present information.
- Develop Actual Information Tool.
- Determine Method Of Distribution.

L.E. / Pawn Shop Poster

COMMON DEVICES CONTAINING LICENSED RADIOACTIVE MATERIALS HOW TO RECOGNIZE THEM AND WHO TO CALL IF YOU FIND ONE



North Carolina Regulations for Protection Against Radiation state "No person shall receive, possess, use, transfer, own or acquire radioactive material except as authorized in a specific or general license issued pursuant to or as otherwise provided in [the regulations]."

What to do if you...

Have obtained one of these devices:

- **ISOLATE & SECURE** the device;
- **LIMIT TIME** in contact with the device;
- **REPORT** to the agencies listed above;
- **MAINTAIN** information on the origin of the device (see below)

Have encountered (but not obtained) one of these devices:

- **REPORT** to the agencies listed above;
- **INFORMATION** which should be reported includes:
 - ❖ Your name and phone number (*optional*)
 - ❖ **Location** of encounter
 - ❖ **Description** of the device and labeling
 - ❖ **Identity** (name, driver's license no., etc.) of person possessing device
 - ❖ **Vehicle description** (make, model, color, plate no., etc.)

5,000 copies printed @ \$0.245 per copy

Contact Information

NC Radiation Protection Section (Monday – Friday 8 – 5) (919) 571 – 4141
 NC Emergency Management (Raleigh) (919) 733 – 3943
 Statewide (24 hour) (800) 858 – 0368
 NC Highway Patrol State Warning Point (24 hour) (800) 662 – 7956

Pictures of labels You May See



"White I"

Most commonly seen on packages containing x-ray fluorescence devices or small quantities of radioactive materials.



"Yellow II"

Most commonly seen on packages for "moisture/density" gauges.



"Yellow III"

Most commonly associated with industrial radiography exposure devices (commonly called "cameras").



"Caution – Radioactive Material"

Displayed on some device components (moisture/density gauge handles, XRF's, etc.) May also be black on yellow background.

Device Description

Portable Nuclear Gauges

- May also be called "moisture/density gauges"
- Typical Colors: Yellow, Orange, Blue, etc.
- Weight: Approx. 40 - 50 lbs

Industrial Radiography Exposure Device

- May also be called a "camera"
- Typical Colors: Black, Silver
- Weight: Approx. 60 - 70 lbs.

X-ray fluorescence Analyzer

- May be called "Lead Paint Analyzer" or "XRF Analyzer"
- Typical Colors: Black, White, Gray, etc. (color depends on manufacturer)
- Weight: Approx. 5 – 10 lbs.

Device Containers



Transport Container and/or transport configuration



Lessons Learned

- It takes a long time to actually have a project in hand (many steps that take “re-dos”).
- Expensive
- Once done, not very flexible.

Example:

New World Incident

Incident 03-21

- June 3, 2003 reported theft of survey meter from hospital nuclear medicine department. The survey meter had an exempt Cs-137 check source attached (< 10 uCi).
- The thief also had a “bucket” of what appeared to be H-3 tubes from an “Exit Light”, which he had taken to the hospital for “disposal” - he left with these as well.

Interview of Hospital Staff

- Hospital staff stated the individual “removed” the survey meter when they (the staff) were distracted.
- The thief was recorded leaving the hospital on video tape.
- The thief turned over the bucket of H-3 tubes to the Weldon FD.
- The Weldon FD & RPS communicated for safe storage and security pending a RPS recovery.

A “Bucket” of H-3 Tubes

- Eight glass tubes containing approximately 30 Ci of Tritium gas each.
- None were cracked or broken.
- These are “Generally Licensed”.
- Never inspected.



Status within 24 Hours

- The (intact) survey meter was recovered by law enforcement and returned to the hospital.
- The intact H-3 tubes (8 total) were abandoned at a local fire dept.; (eventually to be transferred to RPS and properly disposed of by vendor).

Players Within 24 Hours:

Hospital

Roanoak Rapids FD

RPS

FBI (Ral/Charlotte)

Weldon PD

UNC-CH

Roanoak Rapids PD

State Lab

H-3 Vendor

Emergency Mgt.

Weldon FD

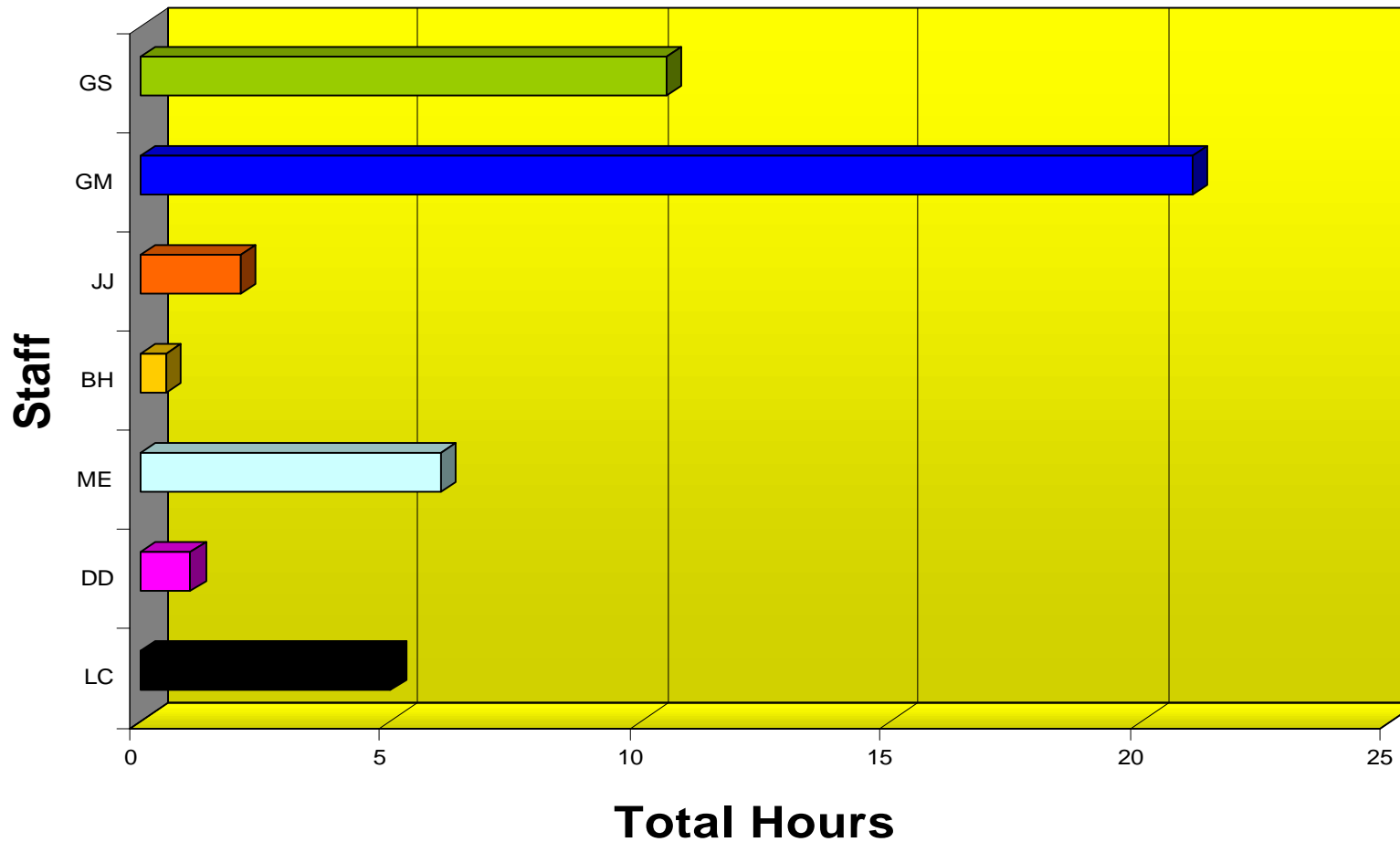
NRC

Survey of Residence



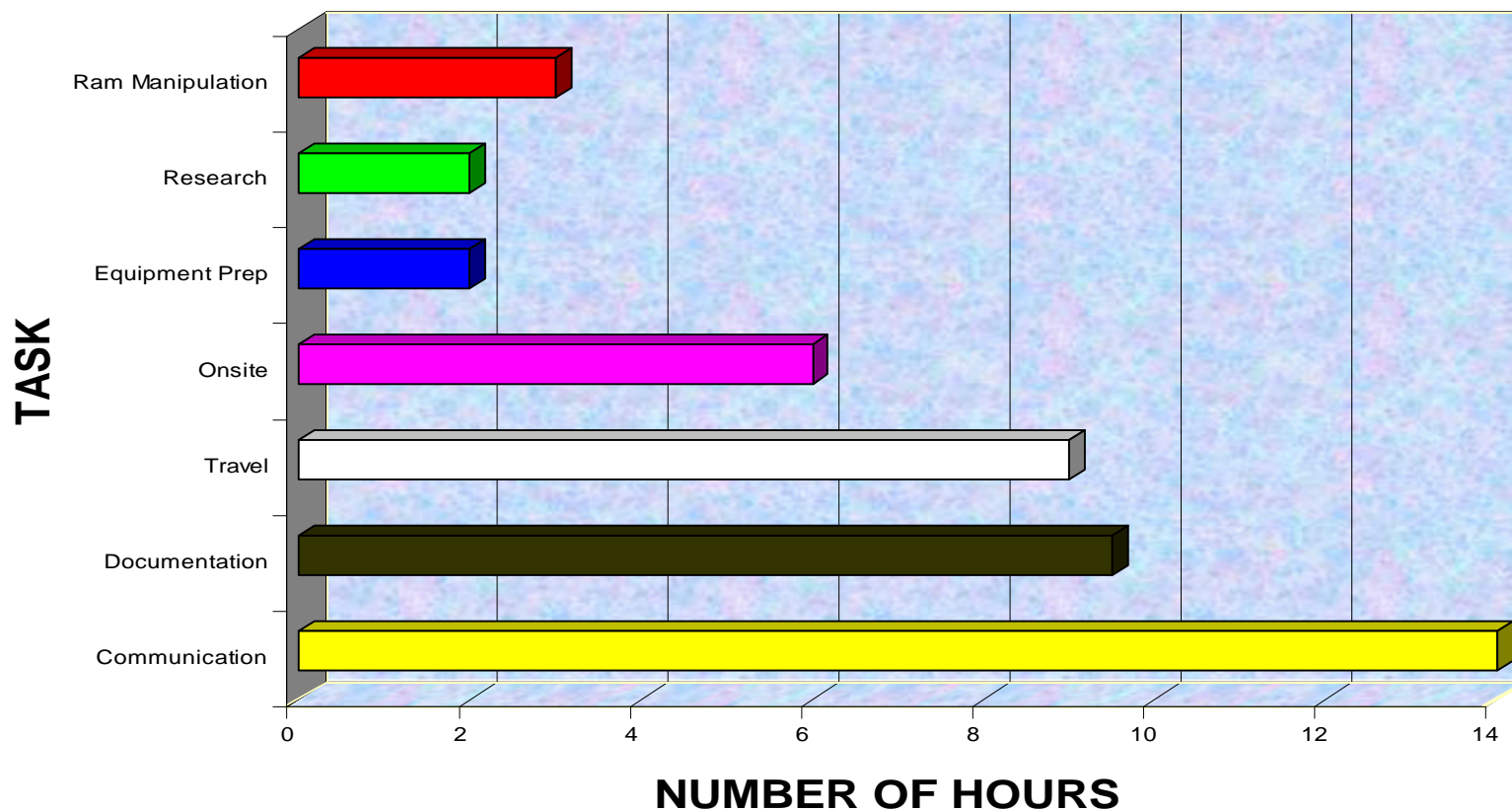
45 Hours RPS Involvement

Staff Involvement



45 Hours RPS Tasks

RPS STAFF TIME



Future Challenges:

Current Incident Procedures:

- Dated: pre 9-11
- Do not consider “Intentional” acts.
- What should new procedures consider??:
- “Intentional Flags”
- “L.E. Expectations” (both ways)
- “limitations”
- “Ability to meet manpower needs.”

Things To Think About?

- What changes are needed in the “New World” radiological incident response?
 - “intentional” considerations,
 - interagency cooperation at a new level
- What is a “Lead Agency”?
- What “groups” have the training and/or resources to act as a Lead Agency in “unknown incidents”?

More Things To Think About

- What groups should be considered a “Lead Agency” or a “Resource” in a radiological incident response?
- Will incidents take more of resources than in the past?
- What are each groups/agencies expectations?

THE END

